

ABSTRACT OF THE DISCLOSURE

A query system for structured multimedia content retrieval comprises a query language based on logic formalism for content retrieval. The language includes query constructs and formalisms for specifying different aspects of XML documents and the constructs and formalisms are particularly adapted for spatial, temporal and visual datatypes. Certain critical specification issues in MPEG-7 XML queries are identified. An XML query language with multimedia query constructs is described which is based on a logic formalism, called path predicate calculus. In this path predicate calculus, the atomic logic formulas are element predicates rather than relation predicates in relational calculus. In this path calculus query language, queries in this calculus are equivalent to finding all proofs to existential closure of logical assertions in the form of path predicates that the tree document elements must satisfy. Spatial, temporal and visual datatypes and relationships can also be described in this formalism for content retrieval.